

## Help File for VectorField.app

This NEXTSTEP application displays two-dimensional projections of vectors at a number of grid points (**black** dots) in a plane (which we'll call the x-y plane). Emanating from each of the grid points are the vectors (**green arrows**) associated with that point. The plot may also show **blue** and **red** dots to indicate positions of auxiliary objects or structures.

The present version of **VectorField.app** contains two examples to show what can be displayed:

```
dipoleElectricField.data  
Sola2DFlowField.data
```

More examples will be added in later versions of this application, particularly if people send me interesting `data` files that come from fields other than physics.

To view one of these example vector field plots, click on the **Open...** menu item and select it in the Open Panel. The green arrows should appear in the Plot Window as described above. Using the **Next Plot** button you can display successive snapshots of the vectors in the  $x$ - $y$  plane as a function of distance from the  $z = 0$  plane (`sol1a2DFlowField`) or at later times (`dipoleElectricField`). Clicking on the **Plot** button, you can start the display over again from the beginning. **Clear**, of course, clears the Plot Window for a new display (and also requires that you make a new selection from the Open Panel).

Clicking on **Explain...** will bring up a window, much like this one, that gives more detail about how the vector field was calculated and some of the physics behind it.

You can also make your own `data` files for display using the

VectorField.app. Click on the **Rolling Your Own...** submenu item for details about the `data` file format. The application bundle also contains a sample C program for generating the dipole electric field data file; you are invited to play around with and modify this program as you wish. (To extract it from the bundle, click on **Open as Folder** when VectorField.app is highlighted in the Workspace Manager.)

VectorField.app is offered to the general public as shareware. If you like what you see (and want to get future updated versions), I'd be pleased if you sent me a licensing fee of \$15. (This suggested fee will go up for future versions, no doubt.)

Have fun!

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